Please cancel claims 1-8.

Listing of the Claims

1-8. (canceled)

9. (New) A method for increasing oil recovery from an oil reservoir in which method gas is injected into the reservoir, comprising:

separating air into an oxygen-rich fraction and a nitrogen-rich fraction;

providing a natural gas stream and leading the natural gas stream and at least a part of the oxygen-rich fraction to a reformer for conversion to synthesis gas mainly comprising H_2, CO, and CO_2 in addition to lower amounts of non-converted methane, water vapor, and nitrogen;

forming methanol or other oxygenated hydrocarbons or higher hydrocarbons from the synthesis gas in a synthesis unit;

withdrawing a raw synthesis product and a waste gas from the synthesis unit; and

injecting the nitrogen-rich fraction and at least a part of the waste gas into the oil reservoir to increase the oil recovery from the reservoir.

10. (New) The method according to claim 9, wherein at least a portion of the waste gas from the synthesis unit is sent to a CO_2 recovery unit, including a CO shift converter, wherein CO_2 is removed and injected into the reservoir.

11. (New) The method according to claim 9, wherein steam or water generated during at least one of the synthesis gas production and the synthesis is injected into the reservoir.

12. (New) The method according to claim 10, wherein steam or water generated during at least one of the synthesis gas production and the synthesis is injected into the reservoir.

13. (New) A plant for providing gas for down-hole injection for pressure support in an oil reservoir for recovery of hydrocarbons and production of oxygenated hydrocarbons or higher hydrocarbons from natural gas, comprising:

an air separation unit for production of an oxygen-rich fraction for supply to processes that require oxygen, and a nitrogen-rich fraction for injection;

a reformer for conversion of a mixture of natural gas, water, and oxygen or oxygen enriched air from the air separation unit into a synthesis gas comprising mainly H_2, CO, CO_2 and small amounts of methane in addition to any inert gas;

a synthesis unit for conversion of the synthesis gas for synthesis of oxygenated hydrocarbons, or for synthesis of higher hydrocarbons;

means for injecting gas into the reservoir;

means for transferring nitrogen from the air separation unit to the means for injecting gas; and

means for transferring at least a part of a waste gas from the synthesis unit to the means for injecting gas.

14. (New) The plant according to claim 13, further comprising a tail gas treatment unit for removing CO by a shift reaction and separating hydrogen from a remaining tail gas.

15. (New) The plant according to claim 14, further comprising means for transferring the remaining tail gas from the tail gas treatment unit to the means for injecting gas.

16. (New) The plant according to claim 13, wherein the synthesis unit comprises one or more once-through Fischer-Tropsch units for synthesis of higher hydrocarbons.

17. (New) The plant according to claim 14, wherein the synthesis unit comprises one or more once-through Fischer-Tropsch units for synthesis of higher hydrocarbons.

18. (New) The plant according to claim 15, wherein the synthesis unit comprises one or more once-through Fischer-Tropsch units for synthesis of higher hydrocarbons.

19. (New) The plant according to claim 16, further comprising means for introducing at least a part of a separated hydrogen from a tail gas treatment unit into a Fischer-Tropsch loop to adjust a H_2/CO ratio to a desired level.

20. (New) A plant for providing gas for down-hole injection for pressure support in an oil reservoir for recovery of hydrocarbons and production of oxygenated hydrocarbons or higher hydrocarbons from natural gas, comprising:

an air separation unit configured to produce an oxygen-rich fraction and a nitrogen-rich fraction for injection;

a reformer configured to convert of a mixture of natural gas, water, and oxygen or oxygen enriched air from the air separation unit into a synthesis gas comprising mainly H_2, CO, CO_2 and small amounts of methane and inert gas;

a synthesis unit configured to convert the synthesis gas for synthesis of oxygenated hydrocarbons, or for synthesis of higher hydrocarbons;

an injection plant positioned to inject gas into the reservoir;

a first line in communication with the air separation unit and configured to transfer nitrogen therefrom to the injection plant; and

a second line in communication with the synthesis unit and configured to transfer at least a portion of a waste gas therefrom to the injection plant.

21. (New) The plant according to claim 20, further comprising a tail gas treatment unit configured to remove CO by a shift reaction and separation of hydrogen from a remaining tail gas.

22. (New) The plant according to claim 21, further comprising a third line in communication with the tail gas treatment unit and configured to transfer the remaining tail gas from the tail gas treatment unit to the injection plant.

23. (New) The plant according to claim 20, wherein the synthesis unit comprises one or more once-through Fischer-Tropsch units for synthesis of higher hydrocarbons.

24. (New) The plant according to claim 23, further comprising a line in communication with the tail gas treatment unit and configured to introduce at least a portion of a separated hydrogen from the tail gas treatment unit into a Fischer-Tropsch loop to adjust a H_2/CO ratio to a desired level.